

Being "In the Game"

When people describe themselves as being "in the game" this is often thought to mean they have a sense of presence, i.e. they feel like they are in the virtual environment (Brown/Cairns 2004). Presence research traditionally focuses on user experiences in virtual reality systems (e.g. head mounted displays, CAVE-like systems). In contrast, the experience of gaming is very different. Gamers willingly submit to the rules of the game, learn arbitrary relationships between the controls and the screen output, and take on the persona of their game character. Also whereas presence in VR systems is immediate, presence in gaming is gradual. Due to these differences, one can question the extent to which people feel present during gaming. A qualitative study was conducted to explore what gamers actually mean when they describe themselves as being "in the game." Thirteen gamers were interviewed and the resulting grounded theory suggests being "in the game" does not necessarily mean presence (i.e. feeling like you are the character and present in the VE). Some people use this phrase just to emphasize their high involvement in the game. These findings differ with Brown and Cairns as they suggest at the highest state of immersion not everybody experiences presence. Furthermore, the experience of presence does not appear dependent on the game being in the first person perspective or the gamer being able to empathize with the character. Future research should investigate why some people experience presence and others do not. Possible explanations include: use of language, perception of presence, personality traits, and types of immersion.

Presence and Gaming

A well designed computer game possesses the ability to keep people in their seats for hours on end at rapt attention, with players actively trying to reach new goals and determined to overcome their failures (Prensky 2003). Sometimes people get so carried away that they even describe themselves as being “in the game” (Brown/Cairns 2004). Such statements are often thought to be describing presence: the sense of being mentally and physically present in a virtual environment (VE) rather than the place in which the participant’s body is actually located (Sanchez-Vives/Slater 2005). Presence is also referred to as “the perceptual illusion of non-mediation,” (Lombard/Ditton 1997) i.e. the illusion that a mediated experience is not mediated.

Measuring experiences of presence is traditionally associated with virtual reality (VR) research, where users wear head mounted displays (HMDs) or interact within CAVE-like systems; i.e. a surround-screen projection-based virtual reality (Sanchez-Vives/Slater 2005). Participants know that the events they see, hear, and feel in the VR systems are not real events in the physical meaning of the word, yet they find themselves thinking, feeling and behaving as if the place and the events were real. For example, during a public speaking task participants responded to a virtual audience as if they were real people (Pertaub et al. 2002). Designing a questionnaire to measure the degree of presence subjectively experienced, Witmer and Singer (1998) emphasize factors such as the naturalness of the interactions with the VE and the extent to which they mimic real-world experiences. Hence one can suggest that HMDs and CAVE-like systems are effective in giving users the sense of presence because the environment appears to surround the user. Furthermore, VR systems are becoming increasingly realistic in terms of visual fidelity, sound, and haptics (i.e. touch and force feedback).

Several researchers have applied these same presence principles to gaming. For example, Alexander et al. (2005) discuss factors highlighted by Witmer and Singer (1998) in the context of video games for military training. Ravaja et al. (2004) also emphasize features such as a first-person view and the naturalness of the game. However, clearly if presence is experienced in gaming at all, the experience is very different to that traditionally studied in presence research.

In this paper, we argue that before measuring presence experiences in gaming, it is necessary to consider a number of issues which are particular to the experience of gaming, making it differ from the experience of presence in VR. Nowak et al. (2008) write about how the gamer must overcome their initial frustration with the gaming interface. Ravaja et al. (2006) suggest that users experience more presence when a game is highly engaging, because there are less attentional resources left over for the processing of the cues signaling that the mediated environment is artificial. However, few researchers have made the differences between presence experiences of VR and games explicit.

Therefore the aim of this paper is to explore the concept of presence in gaming. First we will discuss a number of issues which are particular to the experience of gaming: submission to the game, the mind/body illusion, and immersion as a graded experience. Then we will discuss the results of a qualitative study in which gamers were asked to define the experience of being “in the game.”

Submission to the Game

Whereas a person in a VR system can make a full 360 degree turn, the VEs of computer games are restricted to a small screen. Furthermore, interacting with the game environment is limited to a number of pre-set gestures and can often be far from intuitive, e.g. players must learn the arbitrary relationship between pressing the button “A” and kicking their on-screen opponent. Despite these restrictions howev-

er, not only do players accept the small screen and learn the arbitrary relationships between the controls and the screen output, but the rules of interaction often become fully internalized to the extent that the controls are made to seem transparent (Garite 2003).

Jarvinen (2003) explains that players willingly subject themselves to the rules of the game because rules are what make a game enjoyable. Gaming is a process of problem solving (Jorgenson 2003). Players are faced with a number of information processing tasks (Garite 2003): gathering clues and treasures; keeping track of one's ammunition, health, and other levels; constantly updating a mental map of the universe of the game, such as the positions of pathways, places to avoid, etc. The enjoyment of gaming lies in facing these challenges and overcoming them. In order to experience this enjoyment, the player willingly learns to behave in accordance with the game's boundaries.

Furthermore, despite the interaction with the game being limited to a number of pre-set gestures, players experience a great sense of control in gaming because, unlike watching films or reading books, when playing a game the player takes on an active role. For example, Frome (2007) explains that when playing a first person shooter (FPS) the player determines much of what they see on the screen. When the player presses a button, the character they control throws a grenade, causing a building to blow up. When the player pulls a trigger, their character fires his weapon, shooting an enemy. As a result of the player's actions the game then responds in turn, i.e. there is a "feedback loop" between the person and the game (Friedman 1995). Therefore it is evident that the player experiences a high sense of control because the player is an essential part of the game: the player has to make their avatar act, otherwise there is no game (Perron 2005).

The Mind/Body Split

Another difference between VR systems and gaming is that whereas in the VR system the person remains themselves, acting accordingly, in the world of a game the player takes on the persona of their character. As a result, when people play games for extended periods of time they ignore their physical bodies and concentrate on what is happening to their virtual bodies inside the game world. In extreme cases this can have disastrous consequences. For example, in 2002 a Taiwanese man was reported to have died from exhaustion after playing for 32 hours straight (Garite 2003).

As well as being disembodied from their real body, the player is also disembodied from their virtual body. Using the example of a FPS, Young (2005) explains that the player looks through the eyes of a virtual character while playing, seeing what the character sees. The player does not see the character because the player is the character. In the heat of the game, all is forgotten except the action. People playing a FPS say things like “I got him!” and “He’s over here,” rather than “My avatar was out of ammo.” or “Your character shot my character.” (Young 2005) Similarly, Sommerseth (2007) writes that “regardless of whether the protagonist is a famous avatar that has an established autonomous identity and history, like Lara Croft or Mario, the moment I pick up the joypad to play Tomb Raider, I do not become Lara, but rather, Lara becomes me.” The virtual body is absent because it has been overshadowed by its actions (Young 2005). Although the player takes on the mindset of owning the muscular virtual body in terms of their action within the game (e.g. strength), the body itself has been rendered “invisible.”

Therefore, it is evident that there are two forms of disembodiment during gaming. The virtual body is absent because it has been overshadowed by its actions, the player taking on the persona of the character. Even more absent from perception is the physical body, the body that pushed the keys on the keyboard, moved the mouse, and allowed the images on the screen to be seen.

Immersion as a Graded Experience

A third difference between VR systems and gaming is the length of time it takes for presence to occur. In VR systems the experience of presence is almost immediate, the environment appearing to surround the user. In contrast, the experience of presence in gaming builds up much more gradually. Only as a result of a successful interaction between the person and the game do players experience a decreased awareness of the real world and a high sense of involvement in the game world.

The term “immersion” is used to describe a person’s degree of involvement with a computer game. In interviewing several gamers and developing a grounded theory, Brown and Cairns (2004) identified a number of barriers that could limit the degree of involvement. These barriers arose from a combination of human, computer, and contextual factors (e.g. gamer preference, game construction, environmental distracters); and the type of barrier suggested different levels of immersion: engagement, engrossment and total immersion. An engaged user is one that has invested time, effort, and attention in learning how to play the game and getting to grips with the controls. The reasons why people play and their gaming preference will influence whether a person picks up a game in the first place. An engrossed user is one whose emotions are directly affected by the game. In order for engrossment to occur, good game construction is vital, e.g. visuals, interesting tasks, plot, and challenge. The gamer is now less self aware than before. Finally, a user that is totally immersed is one that feels detached from reality to such an extent that the game is all that matters. Total immersion requires the highest level of attention and is a rare and fleeting experience when gaming, whereas engagement and engrossment are more likely to occur. Presence is said to occur only in this last stage of immersion. Empathy and atmosphere interact in such a way that the user feels like they are in the VE.

Qualitative Study

Overall, it is evident that there are a number of differences between VR systems and gaming. Whereas presence in VR systems is immediate, presence in gaming is gradual. Furthermore, gamers willingly submit to the rules of the game, learning arbitrary relationships between the controls and the screen output, and take on the persona of their game character. Therefore, one can argue that in order to measure presence experiences in gaming it is necessary to create questionnaire measures specific to gaming.

Furthermore, due to these differences, one can question the extent to which people feel present during gaming. When gamers are involved in a game to the highest extent they often describe themselves as being “in the game,” however, what does this actually mean? Does presence always occur at the highest state of immersion? Is it necessary for a player to empathize with the character (Brown/Cairns 2004)? Furthermore, do players experience greater presence in games that offer the player a first-person perspective (King/Krzywinkska 2003, Ravaja et al. 2004)?

A qualitative study was conducted to explore the experience of presence during immersion. Participants were recruited through an opportunity sample. They were told beforehand that the researcher would ask them about their gaming habits and why they enjoyed playing computer games. Each interview lasted for approximately 45-60 minutes and transcripts were analyzed using open coding in order to create a grounded theory (Strauss/Corbin 1998).

There were originally 14 gamers interviewed, however Participant 6 was excluded from the study due to a corruption of the voice recording. Therefore, the resulting grounded theory is based on the interviews of 13 gamers in total. 8 were male and 5 were female. Their ages ranged from 19-32 years (standard deviation = 3.66). Between them they had experience in playing a wide range of games and con-

soles. The grounded theory covered a number of research topics, including people's reasons for gaming, game features that make a good game, and the experience of immersion. For the purposes of this paper, only the part of the grounded theory related to the experience of presence during game immersion is reported.

Being "In the Game"

Three of the gamers interviewed defined being "in the game" as being immersed to such an extent that they became highly involved in the narrative and felt like they were the character (i.e. a sense of presence):

- "I find that it's quite easy using a controller to forget that you're using a controller if the game is good." ~ P10
- "You get just so into that character you think it's kind of real, for like that moment in time." ~ P2
- "I like feeling you're part of a game, just the character that you're playing is you." ~ P11

However, such an experience was not true for everyone. Several gamers claimed that they were always aware that they were just playing a game (i.e. no sense of presence), even at their highest state of immersion:

- "I'm always aware that I'm just playing a game." ~ P4
- "I've never really felt like it was real." ~ P7
- "I don't feel like I'm actually in that world but it's very effective... it's very effective in drawing you in, but you're always aware that it's a game." ~ P13

Therefore, it is evident that when people use the phrase "being in the game" this does not necessarily mean that they feel like the VE

is physically real. Instead some gamers use this phrase to mean that they are simply able to believe in the game world. Through their interaction with the game they are able to become highly involved with the characters and the narrative to such an extent that they feel like they have a place within the VE (although they never actually feel like they are the character):

– “It feels like you’re in the game sometimes. You’re always aware that you’re obviously not, ‘cos you’re looking through a television screen... but you’re kind of expressing yourself through the movement of the controller if you know what I mean... you have a place in the game, an environment in the game.” ~ P11

– “It’s not that you believe you’re the character but it’s just kind of a version of you.” ~ P14

Therefore it would appear that “being in a game” can mean one of two things: either the player feels like the game world is real and they are the character they are playing; or the player simply finds the game world involving to such an extent that they are more aware of it than their real life surroundings:

– “I think it varies from person to person really. Some people probably feel like they’re actually in the game, doing the things the person’s doing in the game... I generally get immersed in the sense that I don’t really notice time passing. So I kind of just forget about whatever’s going on around me.” ~ P5

– “I wouldn’t say that I feel like I’m inside the game, but I’m not thinking about being in a room.” ~ P10

These findings differ from Brown and Cairns (2004), suggesting that at the highest state of immersion not everybody experiences presence.

Empathizing with Characters in the Game

Several of the gamers interviewed claimed that games involving VEs and characters (e.g. FPS, role playing games) are more immersive than games not based on characters (e.g. puzzle games such as TETRIS (1985)). In some cases, gamers described themselves as becoming quite attached to characters in the game:

– “You can be emotionally attached to like characters in a game, er like in a film or a book, and those tend to be the games that are the most memorable.... there’s a real story there.” ~ P10

– “You get affections for the characters.... I used to think ‘I don’t want them to grow up yet, it’s too soon,’ so I... there are things you can do to like slow it down, to prevent it. I think if you earn points and things you can get them to buy potions so they don’t grow old.” ~ P14

In contrast, other gamers simply viewed the character as a tool in which they accessed the game:

– “They were just there to do my business and that’s it. Buh-bye. I don’t care about you.” ~ P2

A person’s view of the character appears to be an artifact of the type of game. For example, Participants 10 and 14 were both discussing narrative-based games in which characters’ backgrounds and personalities played a major part, whereas Participant 2 was talking about a simple platform game. Furthermore, whereas Participant 10’s game involved a first-person perspective, Participant 2’s game involved a third person perspective.

In terms of being “in the game,” it is interesting to note that Participant 10 was one of the gamers discussed earlier that claimed that when he was immersed he never felt like he was in the VE. In contrast, Participant 2 was one of the gamers that claimed that, when

immersed, she did feel like she was there. Therefore, it would appear that because a person is able to relate to character, this does not necessarily mean that they will feel a sense of presence in the VE. Likewise, another person might view the character as a tool but yet have the experience of getting so caught up in the game that at times they view the game world as real.

Discussion

Overall, the qualitative study revealed that when people say they are “in the game” this does not necessarily mean that they feel a sense of presence in the VE (i.e. they feel like they are the character). Instead they might just be using this phrase to emphasize their high involvement in the game. These findings differ with Brown and Cairns (2004) as they suggest that not everybody experiences presence at the highest state of immersion (total immersion). In fact, several gamers claimed that they had never ever had the experience of feeling like they were the character. Furthermore, the experience of presence does not seem to be dependent on the game being in the first person perspective or the gamer being able to empathize with the character. Naturally this leads us to the next question for future research: Why do some people experience presence during gaming and others do not?

One possible explanation is the gamer’s use of language. One could suggest that all gamers experience presence at the height of their game immersion but some gamers might be reluctant to admit this sense of presence, due to the stigma attached; e.g. news stories reporting the cases of death as a result of non-stop gaming highlight the negative consequences of extreme gaming (Garite 2003). Alternatively, another possibility is that nobody experiences presence. Perhaps some gamers are simply exaggerating, using terms such as “I felt like I was the character.” not in their literal sense, but in order to emphasize their high level of immersion in the game and that they felt like they had a place in the game world.

As well as there being uncertainty in terms of the gamer's use of language when describing presence, there is also considerable uncertainty within the research community in terms of what presence actually is. In accordance with the rationalistic tradition, Slater et al. (2006) define presence as a psychological sense of being in a virtual environment. Furthermore, it is assumed that the visibility of the technical infrastructure would spoil the sense of presence and make the user "emerge" (Spagnolli/Gamberini 2002). In contrast, Floridi (2005) argues that it is debatable whether people actually believe they are in another world at all: instead it could be that the virtual world is now present in their space. Floridi (2005) gives the example of a person knocking down a wall so they can now see into the room next door. One would not say that the person was present in the other room but instead it has now become part of the existing room, i.e. the person's viewpoint has expanded. Alternatively, from a Gibsonian perspective, presence can be defined without the notion of subjective experience at all: presence is tantamount to successfully supported action in the environment (Zahorik/Jenison 1998). When the environment responds to the user's actions in a way that is perceived as lawful, presence is more likely to occur. Therefore, it is evident that the meaning of presence depends on one's concept of reality. Should gamers be asked whether they believe that they are now in another environment (present in VE)? Or should they be asked whether they believe that their environment has simply expanded to allow them to act in a space they could not act before (present in real world and VE)? Alternatively, maybe one should ask to what extent are actions supported by the environment (bypassing the whole issue of subjectivity)?

Another possibility is that gamers are pre-disposed in terms of their presence experiences, i.e. presence might be dependent on the role of personality traits. For example, Sas and O'Hare (2003) found that people who are highly fantasy prone, more empathic, more ab-

sorbed, more creative, or more willing to be transported to the virtual world are more likely to experience a greater sense of presence.

A further possibility is that there are different types of immersion. Perhaps people are more likely to experience presence in some types of immersion, and not in others? Ermi and Mäyrä (2005) propose the SCI model and argue that immersion can arise in a number of ways: sensory, challenge-based, and imaginative. Sensory immersion occurs when a person's senses are overpowered (e.g. large screens, powerful sounds, realistic graphics). Challenge-based immersion occurs when a person is able to achieve a balance of challenges and abilities (e.g. engaging game play). Imaginative immersion occurs when a person becomes absorbed with the stories and the world, or begins to identify with a game character. Referring to the SCI model, Arsenault (2005) argues that in games notorious for their absence of plot and characters, it is impossible for the player to identify with the game characters (imaginative immersion) and experience presence. However, it is still possible for the player to experience challenge-based immersion. Therefore, one could suggest that the gradation of immersion (Brown/Cairns 2004) might have to be re-conceptualized, so as to apply to different types of immersion.

Future research should investigate these possible explanations further in order to shed light on why some people experience presence and others do not.

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